River Crossings in East London

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Transport for London
East London has fewer road crossings than west London.
River width is a key constraint in the east

- Richmond – 90m
- Hammersmith – 180m
- Tower – 270m
- Silvertown – 370m
- Woolwich – 450m
- Charlton – 490m
- Gallions Reach – 650m
- Thamesmead – 620m
- Belvedere – 730m
- Dartford bridge – 810m

- 1/3 × T. Bridge width
- 3 × T. Bridge width

Headroom clearance for shipping west of Tower Bridge: 10m max
Headroom clearance for shipping east of Tower Bridge: c50m
The Thames has very different characteristics in east London to West London.

Putney – 200m wide

Charlton – 490m wide

10m height clearance

50m height clearance
Major improvements in cross-river public transport links have taken place over the past 20 years.
No increase in highway travel in the same period
How people cross the river today east of Tower Bridge

- Tower Bridge
- Overground Wapping - Rotherhithe
- Rotherhithe Tunnel
- Jubilee Canary Wharf - Canada Water
- DLR Island Gardens - Cutty Sark
- Jubilee Canary Wharf - North Greenwich
- Blackwall tunnel
- Jubilee Canning Town - North Greenwich
- Woolwich ferry
- DLR King George V - Woolwich Arsenal
- Dartford crossing

Person trips (0800-0900)
- Public transport: 80%
- Car / taxi / goods vehicles: 20%
This investment in public transport has achieved high levels of public transport usage for journeys to the Isle of Dogs.

Morning peak travel to the Isle of Dogs (including Canary Wharf) by mode of transport, 1988 to 2011.
Forecast changes in London's population to 2031

Source: GLA 2013 round projections 2006 to 2031
Growth & development context in the immediate area

Current London Plan – growth to 2031 – 2050 projections even higher
What are the problems we face today?

Major issues at Blackwall Tunnel
• Routine congestion – delays average 20mins in morning peak
• Over 1,000 times in 2013 to add to the congestion
• No nearby alternative

Need for new connections to support growth
• East London forecast to see significant growth in population and employment. Will bring with it increased need for cross-river travel

Woolwich Ferry concerns
• 50 year old vessels and landing stages need replacement
• Hard to maintain reliability
• Local congestion and poor amenity for residential area
The Challenges with the Blackwall Tunnel

- Northbound tunnel – constructed in 1897 – max height restriction of 4m
- Southbound tunnel – completed in 1967 – clearance of 4.7m
- Operating at 99% of capacity in the peak direction – causes regular congestion
- Regular incidents at the tunnel cause this congestion to worsen
- Lack of resilience – so when there is an incident – there are no viable alternative routes which adds to the congestion
Blackwall Tunnel northbound – average hourly flows by day type

Queues build while flow rate is in this range

Hourly flow (vehicles)

Time of day

Weekday
Saturday
Sunday
Usage of the Blackwall Tunnel

Northbound vehicle trips (0800-0900)

- Tower Bridge: 14% goods vehicles
- Rotherhithe tunnel: 9%
- Blackwall tunnel: 13%
- Woolwich ferry: 19%
- Dartford crossing: 13%

Vehicles per hour

Legend:
- Bus / coach
- HGV
- LGV
- Taxi
- Car
Blackwall Tunnel Impacts

- Daily congestion over extended peak periods
- Extended journey times for users – impacts on local employers and business
- Impacts across the wider network – adding delay to other vehicle journeys
- Impacts on bus service reliability and performance
- Congestion causes poor air quality
When incidents happen

- 2013 – over 1,000 incidents per year which impacted on journey times
- Only 10 days during 2013 that were unaffected by a tunnel closure
- Incidents add on average between 15 and 30 minutes to each journey
- Some incidents add considerably more

<table>
<thead>
<tr>
<th>Nature of incident</th>
<th>No of incidents in 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overheight vehicle attempting to access the northbound bore</td>
<td>649</td>
</tr>
<tr>
<td>Vehicle breakdown on the approach to or within the tunnel</td>
<td>234</td>
</tr>
<tr>
<td>Other – eg. Debris within the tunnel</td>
<td>86</td>
</tr>
<tr>
<td>Road traffic accident</td>
<td>67</td>
</tr>
</tbody>
</table>
When incidents happen – lack of alternative routes

Alternative Cross-River Routes to the Blackwall Tunnel
Blackwall Tunnel Incident 11 September 2014

6.45am  Northbound bore of the Blackwall Tunnel closed to carry out emergency repair

7am     Tunnel fully reopened
Queue for the tunnel extended as far back as the A206 Woolwich Road (approx two km).

7.30am  Queue extended as far back as the A2 Kidbrooke Interchange (approx five km).
Local bus services, delaying bus passengers.

9am     Queue begins to clear, traffic returns to normal levels just after 9am.
Woolwich Ferry

• The current vessels and infrastructure started service in 1963
• Capacity is limited, so users often have to queue to use the ferry
• Constraints around the ferry terminals mean that queues can be disruptive to the local area on both sides of the river
• Current infrastructure is either life-expired or fast approaching expiry
• Assumption is that assets will be beyond repair in 2024 – terminal date
• Repairs to maintain safe operations risk becoming more expensive and time-consuming
Lack of Connectivity east of Woolwich

Number of jobs accessible within 37 minutes drive from the zone

- **Millions**
  - > 3.0
  - 2.5 to 3.0
  - 2.0 to 2.5
  - 1.5 to 2.0
  - 1.0 to 1.5
  - 0.5 to 1.0
  - < 0.5
Growth & development context in the immediate area

Growth in this area likely to be considerably higher than current London Plan projections
Local businesses tell us that river crossings are important

- Barking & Dagenham (Base=102) - 40% Not important, 10% Slightly important, 21% Important, 18% Very important, 9% Essential
- Newham (Base=102) - 21% Not important, 12% Slightly important, 19% Important, 32% Very important, 14% Essential
- Tower Hamlets (Base=98) - 30% Not important, 19% Slightly important, 22% Important, 15% Very important, 13% Essential
- Lewisham (Base=97) - 54% Not important, 16% Slightly important, 11% Important, 12% Very important, 6% Essential
- Bexley (Base=101) - 33% Not important, 13% Slightly important, 12% Important, 16% Very important, 24% Essential
- Southwark (Base=99) - 35% Not important, 18% Slightly important, 17% Important, 15% Very important, 14% Essential
- Greenwich (Base=101) - 27% Not important, 11% Slightly important, 16% Important, 22% Very important, 23% Essential
- Havering (Base=100) - 47% Not important, 12% Slightly important, 14% Important, 19% Very important, 8% Essential

TfL East London River Crossings – Business Survey, 2014
There is very clear policy support for new river crossings in east London

- The London Infrastructure Plan 2050:
  - “A series of new river crossings in East London beyond the proposed Silvertown tunnel to overcome the major barrier effect which constrains travel between Thamesmead, Belvedere, Barking Riverside and Rainham” (Chapter 14)

- The London Plan:
  - “New and enhanced road vehicle river crossing(s) in east London (package of measures)” (Para. 6.1)

- The Mayor’s Transport Strategy:
  - “The Mayor, through TfL and working with the London boroughs and other stakeholders, will take forward a package of river crossings in east London...” (Proposal 39)
The need for a package approach

- The package has to address the problems we experience today and those we are forecasting for the future. This includes the following:
  - A new road crossing to address the problems with congestion at Blackwall
  - The introduction of user charges to manage demand and fund the cost of new infrastructure
  - New road crossings further east to improve connectivity and support growth
  - Additional public transport connections further east - delivered through the new crossings or additional rail crossings
  - Facilities for pedestrians and cyclists further east
The need for a package approach

Crossings today
The need for a package approach

Crossings in 2022
The need for a package approach

Crossings in 2025 and beyond
Silvertown Tunnel – key benefits

• Congestion addressed and journey times reduced:
  - Current Lewisham - Stratford AM peak journey time is 45 minutes
  - In 2021, this will increase to 53 minutes
  - With Silvertown and user charging the 2021 journey time would reduce to 40 minutes

• Resilience of the network improves so impact of incidents greatly reduced

• Supports economic and population growth in east London

• Creates opportunities for new public transport connections across the river

Map to show the effects of the Silvertown Tunnel in reducing morning peak delays in 2021
The Emirates Air Line provides a high quality crossing for pedestrians and cyclists at the location of the proposed Silvertown tunnel.
Opportunities for new public transport connections

Cross-river bus services in London
Opportunities for new bus links

- Even with major investment in the rail network, there are certain corridors where connectivity by public transport could be enhanced.
- A key priority for east London is improving access to jobs.
- The Silvertown tunnel will address the congestion that impacts on bus service reliability and performance today.
- It is being designed to allow for full height clearance by double deck vehicles with a dedicated lane in each direction currently planned for bus/freight traffic.
- This creates major opportunities for new bus connections across the river – focusing on those corridors less well connected by rail.

Eltham to Canary Wharf by bus with Silvertown – c35 minutes
Silvertown - next steps

- MTS
- Informal Consultation
- Statutory Consultation
- Secretary of State decision
- Contract Award
- Estimated Completion

- 2009
- 2010
- 2011
- 2012
- 2014
- 2015
- 2016
- 2017
- 2018
- 2021/22

- London Plan
- Draft London Plan
- Informal Consultation
- Submit DCO
- Secretary of State decision
- 2017
- 2018
- 2019
- 2020
- 2021/22
Crossings east of Silvertown consultation

• Consultation ran from 7 July- 18 September 2014

• Options for a package of new river crossings to the east of the Silvertown Tunnel:
  • A new ferry at Woolwich
  • A new ferry service at Gallions Reach
  • A bridge at Gallions Reach
  • A bridge at Belvedere
Crossings east of Silvertown consultation

- Approx. 7,500 responses
- Good level of response from all local boroughs

Key messages:

- Clear support for fixed link options
- Less support for ferry options
- Additional emphasis on integrating public transport services with the crossings
Overall responses to the consultation

- **Woolwich Ferry**
  - Strongly oppose: 1264
  - Oppose: 1237
  - Neither: 1447
  - Support: 1520
  - Strongly support: 847

- **Gallions Ferry**
  - Strongly oppose: 1440
  - Oppose: 2024
  - Neither: 1520
  - Support: 1237
  - Strongly support: 603

- **Gallions Bridge**
  - Strongly oppose: 712
  - Oppose: 351
  - Neither: 1069
  - Support: 1039
  - Strongly support: 2417

- **Belvedere Bridge**
  - Strongly oppose: 927
  - Oppose: 741
  - Neither: 1701
  - Support: 1069
  - Strongly support: 2417
Gallions Reach crossing

- Would connect Thamesmead (Greenwich) with Gallions Reach (Newham)
- Would provide good connections to Royal Docks along safeguarded corridor
- Potential for good public transport links and new pedestrian/cycle connections
- Some concerns about scale (size of bridge) and traffic impacts
- Future work will revisit tunnel options, consider public transport provision, and look more closely at traffic impacts
Belvedere crossing

- Would connect Belvedere/Thamesmead (Bexley) with Rainham (Havering)
- Would provide good connections to London Riverside and the A13 (for M25)
- Some potential for public transport links
- Some concerns about property and traffic impacts
- Future work will consider public transport provision, and look more closely at traffic impacts
Next steps – east of Silvertown crossings

• Proceed in developing two new crossings in parallel:
  - Gallions Reach Bridge
  - Belvedere Bridge
• Work closely with boroughs and other key stakeholders
• Work to date has been focused on a bridge at both locations – we will re-visit tunnel options
• Assess potential for public transport integration with these new crossings – including potential integration with orbital rail concept outlined in London Infrastructure Plan 2050
• Progress business case – impact on transport and economic benefits
• Consider funding options
## Indicative timescale for next 12 months

<table>
<thead>
<tr>
<th>Activity</th>
<th>Time Period</th>
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<tbody>
<tr>
<td>Publish detailed Consultation Report and ‘Responses to Issues Raised’ report</td>
<td>Nov 2014</td>
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<tr>
<td>Progress designs for each crossing option</td>
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<tr>
<td>Develop overall business case for each crossing</td>
<td>Nov 2014 – Sep 2015</td>
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<tr>
<td>Preliminary environmental impact assessment</td>
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<td>Funding and finance study</td>
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<tr>
<td>Assessment of public transport options</td>
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<tr>
<td>Further consultation on more detailed proposals including public transport, walking and cycling provision</td>
<td>Sep 2015</td>
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## Timescales for delivery

<table>
<thead>
<tr>
<th>Component of the Package</th>
<th>Completion Date</th>
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<tbody>
<tr>
<td>Emirates Air Line cable car</td>
<td>2012</td>
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<tr>
<td>Jubilee line capacity enhancements</td>
<td>2012</td>
</tr>
<tr>
<td>Dartford crossing free flow charging</td>
<td>2014</td>
</tr>
<tr>
<td>Overground 5th Car</td>
<td>2014/15</td>
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<tr>
<td>Crossrail 1 completion</td>
<td>2018/19</td>
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<tr>
<td>Silvertown Tunnel</td>
<td>2021/22</td>
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<tr>
<td>Gallions Reach Bridge</td>
<td>2025</td>
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<tr>
<td>Belvedere Bridge</td>
<td>2025</td>
</tr>
<tr>
<td>Orbital rail link</td>
<td>2025+</td>
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<tr>
<td>New Lower Thames crossing</td>
<td>2025+</td>
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